

AMENDMENT TO THE CLAIMS

1-49. (cancelled)

50. (currently amended): A mobile assist device for use with a motorized vehicle having an operating position at which an operator controls the vehicle, the device comprising:

a data storage system containing stored objects each defining a location of ~~a~~-corresponding real world objects; and
a display configured to display virtual images representing the stored objects in a position that generates a visual effect of the virtual images being projected on the corresponding real world objects when the virtual images are viewed by the operator in the operating position ~~conformal manner, whereby each of the virtual images substantially overlays the real world object corresponding to the stored object of the virtual image when viewed from a perspective of a user.~~

51. (currently amended): The device of claim 50, wherein:

the stored objects define a location of lane boundaries of a road; and
the virtual images presented on the display include a line that substantially overlays the lane boundary of the road corresponding to the stored objects when viewed by the operator in the operating position ~~from a perspective of the user.~~

52. (previously presented): The device of claim 51, wherein the stored objects correspond to at least one of a center lane boundary, a left lane boundary, and a right lane boundary of the road.

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53. (previously presented): The device of claim 50, wherein the display includes a screen on which the virtual images are displayed.

54. (previously presented): The device of claim 53, wherein the screen comprises a liquid crystal display film.

55. (new): A mobility assist device for use with a motorized vehicle having an operating position at which an operator controls the motorized vehicle, the device comprising:

- a data storage system;

- object data contained in the data storage system, the object data including location information of a real world object in a three dimensional coordinate system; and

- a display attached to the motorized vehicle and including a graphical image that is positioned to produce a visual effect of the graphical image being projected on the corresponding real world object when viewed from a perspective of the operator in the operating position.

56. (new): The device of claim 55, wherein the graphical image is positioned in line with a line of sight between the operator in the operating position and the corresponding real world object.

57. (new): The device of claim 55, wherein a size of the graphical image changes in response to a change in the position of the operating position relative to the corresponding real world object.

58. (new): The device of claim 57, wherein the size of the graphical image becomes smaller as the operating position moves away from the corresponding real world object.

59. (new): The device of claim 57, wherein the size of the graphical image becomes larger as the operating position moves toward the corresponding real world object.

60. (new): The device of claim 55, wherein the graphical image is representative of the corresponding real world object.

61. (new): The device of claim 60, wherein the real world object includes a lane marking on a road and the graphical image includes a line having a shape that substantially matches the shape of the lane marking such that it appears to be projected on the lane marking when viewed from the perspective of the operator in the operating position.

62. (new): The device of claim 60, wherein the graphical image corresponds to a lane marking on a road.

63. (new): The device of claim 60, wherein the corresponding real world object is located adjacent to a road on which the motorized vehicle is located.

64. (new): The device of claim 63, wherein the corresponding real world object includes a guardrail alongside the road, and the graphical image includes a representation of the guardrail, which appears to be projected on the guardrail when viewed from the perspective of the operator in the operating position.

65. (new): The device of claim 55, wherein the display includes a screen on which the graphical image is presented.

66. (new): The device of claim 65, wherein the screen is positioned between a window of the motorized vehicle and the operating position.

67. (new): The device of claim 66, wherein the screen is transparent.

68. (new): The device of claim 67 including a projector configured to project the graphical image onto the screen.

69. (new): The device of claim 55, wherein the position of the graphical image is based on the object data, a location of the operating position, and a location of the display in the three dimensional coordinate system.

70. (new): The device of claim 55 including an object detection system configured to detect objects outside of the motorized vehicle that are within a field of view of the operator, wherein the display includes tracking graphical images that are positioned in the display to produce a visual effect of being projected on the real world objects that are detected by the object detection system.

71. (new): A mobility assist device for use with a motorized vehicle having an operating position at which an operator controls the motorized vehicle, the device comprising:

- a data storage system;

- objects data contained in the data storage system, the objects data including location information of real world objects in a three dimensional coordinate system; and

- a display attached to the motorized vehicle and including graphical images that are positioned in the display such that they appear to be projected on the corresponding real world objects when viewed from a perspective of the operator in the operating position.

72. (new): The device of claim 71, wherein the graphical images are positioned in line with a line of sight between the operator in the operating position and the corresponding real world objects.

73. (new): The device of claim 61, wherein a size of the graphical images changes in response to a change in the position of the operating position relative to the corresponding real world objects.

74. (new): The device of claim 73, wherein the size of the graphical images becomes smaller as the operating position moves away from the corresponding real world objects.

75. (new): The device of claim 73, wherein the size of the graphical images becomes larger as the operating position moves toward the corresponding real world objects.

76. (new): The device of claim 71, wherein the graphical images are representative of the corresponding real world objects.

77. (new): The device of claim 76, wherein the real world objects include first and second lane markings on a road and the graphical images include first and second lines having a shape that substantially matches a shape of the first and second lane markings, respectively, such that the first and second lines appear to be projected on the first and second lane markings when viewed from the perspective of the operator in the operating position.

78. (new): The device of claim 76, wherein the graphical images correspond to real world lane markings of a road.

79. (new): The device of claim 76, wherein the corresponding real world objects include an object that is located adjacent to a road on which the motorized vehicle is located.

80. (new): The device of claim 79, wherein the corresponding real world object located adjacent the road includes a guardrail alongside the road, and the graphical images include a representation of the guardrail, which appears to be projected on the guardrail when viewed from the perspective of the operator in the operating position.

81. (new): The device of claim 71, wherein the display includes a screen on which the graphical image is presented.

82. (new): The device of claim 81, wherein the screen is positioned between a window of the motorized vehicle and the operating position.

83. (new): The device of claim 81, wherein the screen is transparent.

84. (new): The device of claim 81 including a projector configured to project the graphical image onto the screen.

85. (new): The device of claim 71, wherein the positions of the graphical images are based on the objects data, a location of the operating position, and a location of the display in the three dimensional coordinate system.

86. (new): A mobility assist device comprising:
a motorized vehicle having an operating position at which an operator controls the motorized vehicle;

a data storage system accessible from the motorized vehicle; objects data contained in a data storage system, the objects data including location information of real world objects in a three dimensional coordinate system; and a display attached to the motorized vehicle and including graphical images that are displayed in a position such that they appear to be projected on the corresponding real world objects when viewed by the operator in the operating position, wherein the positions of the graphical images are based on the objects data, a location of the operating position, and a location of the display in the three dimensional coordinate system.

87. (new): The device of claim 86, wherein the motorized vehicle is an automobile and the real world objects correspond to features of a road on which the motorized vehicle is located.

88. (new): The device of claim 86, wherein the graphical images are positioned in line with a line of sight between the operator in the operating position and the corresponding real world objects.

89. (new): The device of claim 86, wherein a size of the graphical images changes in response to a change in the position of the operating position relative to the corresponding real world objects.

90. (new): The device of claim 89, wherein the size of the graphical images becomes smaller as the operating position moves away from the corresponding real world objects.

91. (new): The device of claim 89, wherein the size of the graphical images becomes larger as the operating position moves

toward the corresponding real world objects.

92. (new): The device of claim 86, wherein the graphical images are representative of the corresponding real world objects.

93. (new): The device of claim 92, wherein the real world objects include first and second lane markings on a road and the graphical images include first and second lines having a shape that substantially matches a shape of the first and second lane markings, respectively, such that the first and second lines appear to be projected on the first and second lane markings when viewed from the perspective of the operator in the operating position.

94. (new): The device of claim 92, wherein the graphical images correspond to real world lane markings of a road.

95. (new): The device of claim 92, wherein the corresponding real world objects include an object that is located adjacent to a road on which the motorized vehicle is located.

96. (new): The device of claim 95, wherein the corresponding real world object located adjacent the road includes a guardrail alongside the road, and the graphical images include a representation of the guardrail, which appears to be projected on the guardrail when viewed from the perspective of the operator in the operating position.

97. (new): The device of claim 86 wherein the display includes a screen on which the graphical image is presented.

98. (new): The device of claim 97, wherein the screen is positioned between a window of the motorized vehicle and the

operating position.

99. (new): The device of claim 97, wherein the screen is transparent.

100. (new): The device of claim 97 including a projector configured to project the graphical image onto the screen.